

21. (Once Amended) A fiber grating comprising a core where a grating is written, a cladding for covering the core, and a coat layer for coating an outer face of the cladding,

B₁ wherein the coat layer is made from a UV transmitting resin and has a characteristic of transmitting UV at least of a specific wavelength band used for writing the grating and of curing by absorbing UV of a shorter wavelength band or a longer wavelength band than the specific wavelength band, and the grating is written by irradiating the core with the UV of the specific wavelength band through the coat layer,

wherein the core is co-doped with Ge and Sn, and a concentration of Ge is substantially the same as a concentration of Ge included in a core of another optical fiber to be connected to the fiber grating.

22. (One Amended) The fiber grating of claims 21, further comprising a secondary coat layer for coating an outer face of the coat layer,

wherein the secondary coat layer is made from a material having a negative coefficient of linear expansion.

23. (Once Amended) The fiber grating of claim 21, wherein the coat layer is formed from a sing coat film with a thickness of 30 μm or more.

B₂ 25. (Once Amended) A method of fabricating a fiber grating comprising the steps of:

fabricating a glass fiber structure including a core where a grating is

to be written and a cladding for covering the core;

forming a coat layer of a UV transmitting resin for covering an outer face of the glass fiber structure; and

writing the grating in the core by irradiating the core with first UV through the core layer of which wavelength is longer than 260 nm and shorter than or equal to 350 nm,

wherein the step of forming the coat layer includes a step of curing the UV transmitting resin through irradiation with second UV having a different wavelength from the first UV.

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27. (Once Amended) The method of fabricating a fiber grating of claim 25, wherein the coat layer is formed by a single coating method in a thickness of 30 μm through 50 μm .

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38. (Once Amended) The method of fabricating a fiber grating of any of claims 25 and 28-31, wherein the coat layer is formed in a large thickness for exhibiting a mechanical strength characteristic equivalent to that of a coated fiber to be connected to the fiber grating, and

the UV irradiated for writing the grating is obtained by using solid laser and irradiates the core at an irradiation energy density of 1.5 through 4.0 kJ/cm^2 .

B4